## **CLAIMS**

## I claim:

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- An Active Carbon Nanofiber-based battery comprising a cell trough filled with electrolyte with a cell cap, a spring coil locking onto said cell trough, an
  anode/cathode substrate plate installed within the cell trough linking with its respective separation membrane, and positive and negative terminals installed outside the cell cap connecting to said anode/cathode substrate plate respectively; whereas the anode substrate plate is composed of an aluminum plate and a Carbon Nanofiber layer spray-coated on the aluminum plate surface; whereas the cathode substrate plate is composed of a copper plate and a Carbon Nanofiber layer spray-coated on the copper plate surface.
  - · 2. The Active Carbon Nanofiber-based battery in claim 1, wherein the individual tube diameter of the Carbon Nanofiber layer is 20-80nm, with the length of 200-300nm.
  - 3. The Active Carbon Nanofiber-based battery in claim 1, wherein each set of the substrate plate and its separation membrane has a gap in between, forming a capacitor-like functionality.
    - 4. The Active Carbon Nanofiber-based battery in claim 1, wherein the separation membrane is made by high-molecule, high-insulation cloth, with the size of the battery inner trough.